This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A scheduling and routing system for delivering a consumable to customers via commercial delivery vehicles, comprising:

a delivery forecasting system that maps certain customers to delivery profiles for similarly situated customers to provide statistical parameters for inventory replenishment of the consumable; and

an integrated inventory replenishment, scheduling and routing system that extends cost minimization for inventory replenishment of the consumable for individual deliveries by a commercial delivery vehicle to include road routing economics of making several deliveries in sequence before replenishment of the commercial delivery vehicle.

2. (Original) The scheduling and routing system of claim 1, wherein the integrated inventory replenishment, scheduling and routing system includes an algorithm for optimal route generation and an algorithm for optimal delivery day selection, said optimal route generation and optimal delivery day selection algorithms being integrated so as to allow a global optimization with cost trade offs among penalties for running out of the consumable, the costs of multiple trips to deliver the consumable over the long term for an individual customer, and the daily costs of time and miles on the road for executing a route to deliver the consumable to a number of different customers.

3. (Original) A method of forecasting consumption and generating optimal delivery schedules for delivery of consumables to customers by commercial delivery vehicles, comprising the steps of:

forecasting a customer's consumption of the consumable based on delivery profiles for similarly situated customers to provide statistical parameters for inventory replenishment of the consumable; and minimizing cost for inventory replenishment of the consumable for individual deliveries by a commercial delivery vehicle to include road routing economics of making several deliveries in sequence before replenishment of the commercial delivery vehicle.

4. (Original) The method of claim 3, wherein the cost minimizing step comprises the step of integrating an algorithm for optimal route generation and an algorithm for optimal delivery day selection so as to allow a global optimization with cost trade offs among penalties for running out of the consumable, the costs of multiple trips to deliver the consumable over the long term for an individual customer, and the daily costs of time and miles on the road for executing a route to deliver the consumable to a number of different customers.

5. (Original) The method of claim 3, wherein the days on which deliveries can be made is variable so as to increase the number of possible route assignments for a given delivery.

6. (Original) The method of claim 3, wherein the forecasting step includes the step of creating at least one consumption parameter unique to the customer and a variance term.

7. (Original) The method of claim 3, comprising the further step of assigning priorities to customers to dictate the order in which commercial vehicle capacity is exhausted.

8. (Original) A program storage device readable by a processor and storing thereon a program of instructions executable by said processor for forecasting consumption and generating optimal delivery schedules for delivery of consumables to customers by commercial delivery vehicles, said program of instruction causing said processor to forecast a customer's consumption of the consumable based on delivery profiles for similarly situated

customers to provide statistical parameters for inventory replenishment of the consumable, and to minimize cost for inventory replenishment of the consumable for individual deliveries by a commercial delivery vehicle to include road routing economics of making several deliveries in sequence before replenishment of the commercial delivery vehicle.

9. (Original) The program storage device of claim 8, wherein the program of instructions further causes the processor to integrate an algorithm for optimal route generation and an algorithm for optimal delivery day selection so as to allow a global optimization with cost trade offs among penalties for running out of the consumable, the costs of multiple trips to deliver the consumable over the long term for an individual customer, and the daily costs of time and miles on the road for executing a route to deliver the consumable to a number of different customers.

10. (Original) The program storage device of claim 8, wherein the days on which deliveries can be made is variable so as to increase the number of possible route assignments for a given delivery.

11. (Original) The program storage device of claim 8, wherein the program of instructions further creates at least one consumption parameter unique to the customer and a variance term.

12. (Original) The program storage device of claim 8, wherein the program of instructions further assigns priorities to customers to dictate the order in which commercial vehicle capacity is exhausted.

13. (Original) A scheduling and routing system for providing periodically scheduled services to customers via commercial delivery vehicles, comprising:

a delivery forecasting system that maps certain customers to delivery profiles for similarly situated customers to provide statistical parameters for providing the periodically scheduled services; and

an integrated scheduling and routing system that extends cost minimization for delivery of services via a commercial delivery vehicle to include road routing economics of making several deliveries in sequence before rerouting of the commercial delivery vehicle.

14. (Original) The scheduling and routing system of claim 13, wherein the integrated scheduling and routing system includes an algorithm for optimal route generation and an algorithm for optimal delivery day selection, said optimal route generation and optimal delivery day selection algorithms being integrated so as to allow a global optimization with cost trade offs among penalties for the customer requiring the service, the costs of multiple trips to deliver the service over the long term for an individual customer, and the daily costs of time and miles on the road for executing a route to deliver the service to a number of different customers.

15. (Original) A method of providing periodically scheduled services to customers by commercial delivery vehicles, comprising the steps of:

forecasting a customer's need for the service based on delivery profiles for similarly situated customers to provide statistical parameters for providing the periodically scheduled services; and

minimizing cost for delivery of the services via a commercial delivery vehicle to include road routing economics of making several deliveries in sequence before rerouting of the commercial delivery vehicle.

16. (Original) The method of claim 15, wherein the cost minimizing step comprises the step of integrating an algorithm for optimal route generation and an algorithm for optimal delivery day selection so as to allow a global optimization with cost trade offs

among penalties for the customer requiring the service, the costs of multiple trips to deliver the service over the long term for an individual customer, and the daily costs of time and miles on the road for executing a route to deliver the service to a number of different customers.

17. (Original) A program storage device readable by a processor and storing thereon a program of instructions executable by said processor for forecasting need for periodically scheduled services and generating optimal delivery schedules for delivery of the services to customers by commercial delivery vehicles, said program of instruction causing said processor to forecast a customer's need for the services based on delivery profiles for similarly situated customers to provide statistical parameters for provision of the services, and to minimize cost for individual deliveries by a commercial delivery vehicle to include road routing economics of making several deliveries in sequence before rerouting of the commercial delivery vehicle.

18. (Original) The program storage device of claim 17, wherein the program of instructions further causes the processor to integrate an algorithm for optimal route generation and an algorithm for optimal delivery day selection so as to allow a global optimization with cost trade offs among penalties for the customer requiring the service, the costs of multiple trips to deliver the service over the long term for an individual customer, and the daily costs of time and miles on the road for executing a route to deliver the service to a number of different customers.